

IN THE CLAIMS

1-20. Cancelled

21.(new) An electronic control including sensing means to scan at least
5 one energizing circuit of a device, said energizing circuit containing one or more
transducers, said energizing circuit including switches, said energizing circuit
carrying the current of said transducer,

10 said transducers having the potential to cause said device to operate in a
hazardous manner if said transducers are mistakenly energized,

15 said transducers never causing said device to operate in a hazardous
manner when said transducers are in an unenergized state,

the intended states of said switches are known to said control whether said
intended states are set by said control or an override in said device,

20 said control;

15 identifying any of said switches as functional that said sensing means
verifies are in said intended states,

identifying any of said switches as non-functional that said sensing means
verifies are not in said intended states,

25 preventing any of said switches identified as non-functional from causing
said transducers to be mistakenly energized by opening one or more of said
switches identified as functional.

22.(new) The control in accordance with claim 21 in which at least one of
said transducers is a solenoid actuating a valve, said hazardous manner being
flooding.

25 23.(new) The control in accordance with claim 21 in which at least one of
said transducers is a heating element, said hazardous manner being overheating.

24.(new) The control in accordance with claim 21 in which at least one of
said transducers is a motor, said hazardous manner being physical injury to the
operator of said device.

30 25.(new) An electronic control including sensing means to scan at least
one energizing circuit of a device, said energizing circuit containing one or more
transducers, said energizing circuit including switches, said energizing circuit
carrying transducer current,

35 said transducers having the potential to cause said device to operate in a
hazardous manner if said transducers are mistakenly energized,

5 said transducers never causing said device to operate in a hazardous manner when said transducers are in an unenergized state,

10 the intended states of said switches are known to said control whether said intended states are set by said control or an override in said device,

15 said control;

20 identifying any of said switches as functional that said sensing means verifies are open when said intended state is open,

25 identifying any of said switches as erroneously closed that said sensing means verifies are not open when said intended state is open,

30 preventing any of said switches identified as erroneously closed from causing said transducers to be mistakenly energized by opening one or more of said switches identified as functional.

35 26.(new) The control in accordance with claim 25 wherein at least one of said switches can be independently opened by either said control or an override.

40 27.(new) The control in accordance with claim 26 wherein said control signals the operator it has identified one or more of said switches as erroneously closed.

45 28.(new) The control in accordance with claim 25 wherein said control continues to operate said transducers in said energizing circuit of said switch identified as erroneously closed.

50 29.(new) The control in accordance with claim 28 wherein said control signals the operator it has identified one or more of said switches as erroneously closed

55 30.(new) The control in accordance with claim 25 wherein at least one sensor of said sensing means scans said switches in a plurality of circuits of said energizing circuit.

60 31.(new) The control in accordance with claim 25 wherein said sensing means also determines the state of at least one externally operated switch in said circuit whose intended state is unknown to said control via any other means.

65 32.(new) An electronic control including sensing means to scan the output circuitry of a device, said output circuitry including at least one energizing circuit, said energizing circuit containing one or more transducers, said energizing circuit including switches, said energizing circuit carrying transducer current,

70 said transducers having the potential to cause said device to operate in a hazardous manner if said transducers are mistakenly energized,

5 said transducers never causing said device to operate in a hazardous manner when said transducers are in an unenergized state,

at least one of said switches being a monitored switch,
said control;

10 using said sensing means to ascertain the frequency said monitored switch changes state,

prolonging the period said energizing circuit of said monitored switch is open if said frequency exceeds the rate at which said monitored switch can safely operate said transducers.

15 33.(new) The control in accordance with claim 32 wherein said sensing means scans said energizing circuit.

20 34.(new) The control in accordance with claim 33 wherein the intended states of said switches are known to said control whether said intended states are set by said control or an override in said device,

25 said control;

30 identifying any of said switches as functional that said sensing means verifies are in said intended state,

35 identifying any of said switches as non-functional that said sensing means verifies are not in said intended state,

40 preventing any of said switches identified as non-functional from causing said transducers to be mistakenly energized by opening one or more of said switches identified as functional.

45 35.(new) The control in accordance with claim 34 wherein said sensing means also determines the state of at least one externally operated switch in said energizing circuit whose intended state is unknown to said control via any other means.

50 36.(new) The control in accordance with claim 34 wherein at least one sensor of said sensing means scans said switches in a plurality of said energizing circuit.

55 37.(new) The control in accordance with claim 33 wherein the intended states of said switches are known to said control whether said intended states are set by said control or an override in said device,

60 said control identifying any of said switches as functional that said sensing means verifies are open when said intended state is open,

65 said control identifying any of said switches as erroneously closed that said sensing means verifies are not open in said intended state is open,

preventing any of said switches identified as erroneously closed from causing said transducers to be mistakenly energized by opening one or more of said switches identified as functional.

38.(new) The control in accordance with claim 37 wherein at least one of 5 said switches can be independently opened by either said control or an override.

39.(new) The control in accordance with claim 37 wherein at least one sensor of said sensing means scans said switches in a plurality of said energizing circuits.

40.(new) The control in accordance with claim 37 wherein said sensing 10 means also determines the state of at least one externally operated switch in said energizing circuit whose intended state is unknown to said control via any other means.